

ROYAL OBSERVATORY, GREENWICH.

MEASURES OF POSITIONS AND AREAS

OF

S U N S P O T S A N D F A C U L A

ON

P H O T O G R A P H S

TAKEN WITH THE

P H O T O H E L I O G R A P H S

AT GREENWICH, IN INDIA, AND IN MAURITIUS,

WITH THE DEDUCED

H E L I O G R A P H I C L O N G I T U D E S A N D L A T I T U D E

1900.

MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

MEASURES of POSITIONS and AREAS of SUN SPOTS and FACULÆ on PHOTOGRAPHS taken at the ROYAL OBSERVATORY, GREENWICH, at DEHRA DÛN in INDIA, and at the ROYAL ALFRED OBSERVATORY, MAURITIUS, in the Year 1900.

NOTE.—The Greenwich Civil Time at which the Photograph was taken is expressed by the Day of the Year and decimals of a day, reckoning from Midnight, January 1st 0^h.

For convenience of reference, the Month and Day of the Month (Civil Reckoning) are added.

The letter I. signifies that the photograph was taken in India; the letter M. that the photograph was taken in Mauritius; the time given is Greenwich Civil Time.

The position-angles are reckoned from the North Pole of the Sun's Axis in the direction N., E., S., W., N.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 0 ^d .306 I.	CL, M	4900	0.881	261.6	98.4	— 8.9	1	11	259 ⁸ / ₉	1900. 8.259 I.	CL, M		0.919	78.8	226.4	+ 8.6			352
Jan. 1		Centre			(36.7)	(— 3.3)	(1)	(11)	(259)	Jan. 9		Centre			(291.9)	(— 4.1)	(0)	(0)	(352)
1.253 I.	CL, M	4900	0.947	308.2	88.4	+ 34.4			59										
Jan. 2		Centre	0.967	261.6	99.6	— 9.0	0	20		9.513 Jan. 10	CL, M	Centre	0.770	75.3	226.7	+ 8.5	(0)	(0)	132
		Centre	0.939	261.7	94.1	— 9.0	0	9	254 ^c						(275.4)	(— 4.2)	(0)	(0)	(132)
					(24.2)	(— 3.4)	(0)	(29)	(313)										
2.211 I.		Centre			(11.5)	(— 3.5)	(0)	(0)	(0)	10.284 I.	CL, M	Centre	0.854	108.9	207.2	— 18.3			177
Jan. 3		Centre								Jan. 11		Centre	0.894	98.1	201.8	— 9.2	(0)	(0)	44
															(265.3)	(— 4.3)	(0)	(0)	(221)
3.258 I.		Centre			(357.7)	(— 3.6)	(0)	(0)	(0)										
Jan. 4		Centre								11.185 I.	CL, M	4901a	0.893	77.4	191.6	+ 9.2	12	49	259 ^c
												4901	0.911	76.4	189.4	+ 10.4	7	19	
												4901	0.918	78.1	188.2	+ 9.1	0	25	
												4901	0.924	77.3	187.4	+ 9.9	0	16	
4.220 M.		Centre			(345.1)	(— 3.7)	(0)	(0)	(0)	Jan. 12		Centre	0.904	103.2	188.7	— 13.8	(19)	(109)	184
Jan. 5		Centre													(253.4)	(— 4.4)	(19)	(109)	(443)
5.493 Jan. 6		Centre			(328.4)	(— 3.8)	(0)	(0)	(0)	12.4.306 I.	CL, M	4902a	0.305	32.3	229.1	+ 10.4	8	57	409 ^c
												4902	0.323	34.3	228.0	+ 11.0	0	1	
												4902	0.335	37.8	226.6	+ 10.9	4	21	
												4901a	0.748	73.4	192.2	+ 9.2	20	148	
												4901	0.788	72.8	182.8	+ 10.6	9	14	
												4901	0.787	75.3	188.5	+ 8.6	9	73	
												4901	0.808	75.3	186.5	+ 9.1	0	4	
7.510 Jan. 8		Centre			(301.8)	(— 4.0)	(0)	(0)	(0)	Jan. 13		Centre	0.810	74.3	186.5	+ 9.9	0	13	13
															(238.6)	(— 4.5)	(41)	(331)	(409)

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculæ relative to the Spots with which they are associated are indicated by the letters n, s, p, f, c, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculæ are expressed in millionths of the Sun's visible Hemisphere.

Group 4900, 1899 December 29–1900 January 2. A few small unstable spots in a short stream.

Group 4901, 1900 January 12–19. A large irregular spot, a, followed by a short unstable stream.

Group 4902, January 15–16. A fairly large spot, a, that diminishes rapidly in size, and is seen alone in January 16.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued*.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1900. 13 ^d 48 ^h 4	CL, M	4902a	0°29'5	331°6	231°3	+10°4	5	32		1900. 19 ^d 45 ^h 8 M.				°	°	°				
		4902	0°26'7	335°0	229°6	+9°4	0	5		Jan. 20		Centre			(144°5)	(-5°2)	(0)	(0)	(0)	
		4901a	0°55'0	65°1	192°9	+9°4	18	100												
		4901	0°60'5	68°5	188°5	+9°0	1	13												
		4901	0°62'6	67°8	187°2	+9°9	0	9												
Jan. 14		Centre			(223°1)	(-4°6)	(24)	(159)	(0)	Jan. 21		No photograph.								
14 ^d 28 ^h 1	CL, M	4902a	0°42'0	309°7	231°7	+11°1	3	15		21 ^d 46 ^h 8 M.										
		4902	0°40'2	309°9	230°8	+10°4	0	1		Jan. 22		Centre			(117°9)	(-5°4)	(0)	(0)	(0)	
I.		4902	0°36'8	316°7	227°4	+11°0	0	3												
		4901	0°38'5	53°0	194°6	+8°9	0	3												
		4901a	0°41'3	54°1	192°9	+9°5	19	107		22 ^d 22 ^h 3 M.										
		4901	0°43'2	55°6	191°5	+9°7	0	4		Jan. 23		Centre			(108°1)	(-5°5)	(0)	(0)	(0)	
		4901	0°44'5	56°4	190°6	+9°9	0	2												
		4901	0°47'3	57°0	188°9	+10°6	0	8												
		4901	0°47'5	59°9	188°1	+9°5	2	7		23 ^d 21 ^h 5	CL, M	4903	0°90'9	42°8	43°1	+38°4	0	26	201sp	
Jan. 15		Centre			(212°6)	(-4°7)	(24)	(150)	(0)		I.	4904a	0°79'8	98°9	41°9	-10°5	3	15		
15 ^d 30 ^h 7	CL, M	4902a	0°59'7	296°1	232°0	+11°2	0	5		Jan. 24		Centre			(95°0)	(-5°6)	(4)	(51)	(201)	
		4901a	0°27'2	22°6	192°9	+9°7	13	62												
Jan. 16		Centre			(199°0)	(-4°8)	(13)	(67)	(0)											
16 ^d 46 ^h 6	CL, M	4901	0°28'8	323°8	193°8	+8°6	0	3		24 ^d 49 ^h 7	CL, M	4904a	0°58'4	100°4	42°4	-10°6	0	35		
		4901	0°29'9	328°3	193°0	+9°8	4	32		Jan. 25		Centre			39°4	-10°9	0	9		
		4901	0°28'3	331°7	191°7	+9°5	0	5							(78°0)	(-5°6)	(0)	(44)	(0)	
Jan. 17		Centre			(183°9)	(-4°9)	(4)	(40)	(0)	25 ^d 22 ^h 1	CL, M	4904a	0°44'2	103°6	42°8	-11°1	7	37		
17 ^d 47 ^h 6	CL, M		0°87'3	286°1	229°1	+11°4					I.	4904	0°48'1	100°1	40°0	-9°9	0	3		
		4901a	0°45'0	303°7	192°7	+9°8	3	18							39°3	-11°0	0	5		
		Centre	0°91'9	98°3	193°5	-9°6				Jan. 26		Centre			102°3	37°6	-11°0	0	4	
Jan. 18					(170°5)	(-5°0)	(3)	(18)	276 (362)						(68°6)	(-5°7)	(7)	(49)	(0)	
18 ^d 20 ^h 2	CL, M		0°93'2	283°3	227°9	+10°4			183	26 ^d 36 ^h 8 M.	CL, M	4904a	0°18'7	120°4	44°1	-11°1	4	14		
		4901a	0°58'5	295°2	193°3	+10°1	0	6							123°6	43°4	-12°3	0	4	
		Centre	0°86'3	97°6	191°1	-9°1			312 (495)	Jan. 27		Centre			110°4	38°9	-10°9	0	9	
Jan. 19					(160°9)	(-5°1)	(0)	(6)							(53°5)	(-5°8)	(4)	(27)	(0)	

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the Spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4903, January 24. A small spot.

Group 4904, January 24-29. A spot, *a*, followed by a few small companions. *a* has broken up by January 27.

MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1900. 27 ^d 332	CL, M		0.893	261.2	104.3	-10.6			238	
		4904	0.078	220.8	43.7	-9.2	0	3		
		4904	0.082	196.3	42.4	-10.4	0	3		
		4904	0.097	161.8	38.9	-11.1	0	19		
		4904	0.075	175.1	37.0	-10.2	0	7		
		4905a	0.841	81.1	344.3	+4.2	24	110		
		4905	0.852	81.8	343.3	+3.9	0	10		
		Centre			(40.7)	(-5.9)	(24)	(152)	510f	(748)
Jan. 28										
28.208	CL, M		0.962	260.9	104.0	-10.4			254	
		4906	0.934	310.8	88.5	-34.7	0	3	253p	
		4904	0.225	249.4	41.6	-10.3	0	2		
		4904	0.204	240.8	39.7	-11.6	2	14		
		4905	0.714	77.9	345.0	+4.4	27	128		
		4905	0.730	81.1	343.3	+2.4	0	2		
		4905	0.754	79.5	341.5	+3.9	0	2		
		4905	0.758	80.4	341.0	+3.3	0	2		
		Centre			(29.3)	(-5.9)	(29)	(153)	307f	(814)
Jan. 29										
29.266	CL, M		0.997	307.6	94.9	+36.6			508	
		4905a	0.522	70.9	345.8	+4.6	21	103		
		4905	0.537	73.4	344.4	+3.7	2	11		
		4905	0.540	71.9	344.4	+4.5	6	15		
		4905	0.557	72.8	343.2	+4.4	0	6		
		Centre			(15.3)	(-6.0)	(29)	(135)	216	(724)
Jan. 30										
30.373	CL, M		0.307	54.3	346.3	+4.4	18	84		
		4905a	0.319	59.2	344.8	+3.5	25	122		
		4905	0.352	58.7	343.2	+4.7	0	5		
		4905	0.365	60.9	342.1	+4.4	0	1		
		4905	0.391	62.6	340.4	+4.6	1	4		
		4905	0.399	61.3	340.2	+5.3	0	3		
		Centre			(0.7)	(-6.1)	(44)	(219)	(0)	
Jan. 31										
31.314	CL, M		0.817	261.3	43.5	-10.7			144	
		4905a	0.184	11.3	346.3	+4.2	22	145		
		4905	0.168	22.8	344.9	+2.7	1	8		
		4905	0.184	19.9	344.8	+3.7	1	2		
		4905	0.233	21.0	343.6	+6.3	1	4		
		4905	0.186	28.1	343.4	+3.2	0	4		
		Centre			(348.4)	(-6.2)	(25)	(163)	(144)	
Feb. 1										
Feb. 2			No photograph.							
33 ^d 191	CL, M		0.978	260.4	42.3	-10.7			108	
		4905a	0.437	294.3	347.0	+4.6	29	149		
		Centre			(323.6)	(-6.3)	(29)	(149)	(108)	
Feb. 3										
34.425	CL, M		0.733	286.4	352.4	+7.4	0	2		
		4905a	0.658	284.6	346.9	+4.6	28	159		
		4907a	0.954	76.4	236.9	+10.9	3	51		
		4907	0.968	77.8	233.6	+10.1	0	19		
		4907b	0.975	79.3	231.7	+8.9	5	109		
		4908a	0.997	77.8	223.5	+11.6	0	261		
		Centre			(307.4)	(-6.4)	(36)	(601)	1358c	(1603)
Feb. 4										
35.179	CL, M		0.780	281.0	347.4	+4.4	26	138		
		4907a	0.894	74.2	236.4	+11.0	5	51		
		4907	0.909	75.5	234.2	+10.3	6	22		
		4907b	0.922	77.1	232.1	+9.2	16	116		
		4907	0.927	75.7	231.6	+10.7	5	21		
		4908a	0.967	74.2	224.5	+13.5	37	173		
		4908	0.969	77.0	223.6	+10.9	4	23		
		Centre			(297.4)	(-6.4)	(99)	(544)	1333c	(1333)
Feb. 5										
36.461	CL, M		0.924	277.8	347.0	+4.6	18	135		
		4909	0.559	98.9	246.5	-10.4	4	16		
		4909	0.573	97.5	245.5	-9.6	0	8		
		4909	0.618	96.2	242.2	-8.9	0	2		
		4907a	0.739	68.6	236.2	+11.0	8	74		
		4907b	0.762	72.1	233.4	+9.1	10	56		
		4907	0.774	70.9	232.7	+10.3	4	34		
		4907	0.778	73.0	231.8	+8.9	0	2		
		4908	0.820	70.1	228.6	+12.3	7	33		
		4908a	0.852	70.8	225.1	+12.6	16	145		
		4908	0.862	73.2	223.5	+10.9	0	4		
		Centre			(280.5)	(-6.5)	(67)	(509)	1032c	(1451)
Feb. 6										
Feb. 7			No photograph.							

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The Areas of Spots and Faculæ are expressed in millionths of the Sun's visible Hemisphere.

Group 4905, January 28–February 6. A large spot, *a*, measured in two portions on January 31, with small companions.

Group 4906, January 29. A very small spot.

Group 4907, February 4–12. A broken group, in which two spots, *a* and *b*, may be identified. *b* is the larger; *a* is not seen after February 8.

Group 4908, February 4–12. A broken group, following group 4907. The largest spot, *a*, steadily diminishes in size and is not seen on February 12.

Group 4909, February 6–13. A few regular spots, diminishing rapidly in size. The group is not seen on February 10, but is very large on the next day.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	FACULÆ.
1900. 38 ^d 497	CL, M	4909	0°107	130°0	248°9	-10°5	0	10	
		4909	0°117	117°7	247°7	-9°7	0	10	
		4910	0°210	107°3	242°0	-10°0	0	27	
		4907	0°409	45°7	216°5	+10°3	0	4	
		4907a	0°425	45°3	235°8	+11°1	3	120	
		4907	0°434	44°5	235°7	+11°7	0	4	
		4907b	0°424	50°6	234°4	+9°3	5	31	
		4907	0°438	50°4	233°7	+10°0	0	5	
		4908	0°523	53°4	228°4	+12°2	0	21	
		4908	0°544	52°3	227°5	+13°4	0	5	
		4908	0°544	53°5	227°2	+12°9	0	5	
		4908	0°536	57°6	226°4	+10°8	0	18	
		4908a	0°553	55°6	226°0	+12°3	8	77	
Feb. 8	Centre				(253°7)	(-6°6)	(16)	(337)	(o)
39°178	CL, M	4909	0°112	229°8	249°7	-10°7	0	8	
		4909	0°088	231°3	248°7	-9°8	2	7	
		4910	0°077	141°0	241°9	-10°0	0	12	
		4907	0°377	22°2	236°3	+13°8	0	3	
		4907	0°340	26°2	235°9	+11°2	2	3	
		4907b	0°332	31°6	234°6	+9°9	12	49	
		4908a	0°442	41°8	227°2	+12°9	6	88	
		4908	0°434	46°7	226°0	+11°0	1	3	
Feb. 9	Centre				(244°7)	(-6°6)	(23)	(178)	(o)
40°285	CL, M	4907b	0°305	342°9	235°5	+10°2	11	68	
		4908	0°326	6°9	228°0	+12°1	2	13	
		4908	0°340	7°8	227°6	+12°9	0	10	
		4908a	0°345	10°7	226°5	+13°0	2	48	
		4908	0°313	18°1	224°6	+10°6	0	4	
Feb. 10	Centre				(230°3)	(-6°7)	(15)	(143)	(o)
41°194	CL, M	4911	0°767	268°2	268°4	-5°7	0	6	212c
		4911	0°737	267°9	265°8	-6°1	0	2	
		4909	0°532	262°5	250°4	-9°7	8	64	
		4909	0°514	260°7	249°1	-10°5	0	9	
		4909	0°493	262°9	247°8	-9°3	0	6	
		4909	0°486	260°5	247°2	-10°4	4	14	
		4909	0°473	261°3	246°4	-10°0	0	5	
		4907b	0°415	313°0	236°1	+10°0	3	20	
		4908a	0°368	334°6	227°5	+12°7	2	35	
Feb. 11	Centre				(218°2)	(-6°7)	(17)	(161)	(212)
1900. 42 ^d 233	CL, M	4911	0°917	266°6	271°2	-5°9	0	11	359f
		4909	0°725	262°2	251°2	-10°3	3	8	407c
		4907b	0°581	297°0	236°0	+9°5	3	19	
		4908	0°530	310°1	229°1	+13°7	0	8	
		4908	0°495	312°6	226°4	+13°2	1	4	
I.					(204°3)	(-6°8)	(7)	(50)	(766)
Feb. 12	Centre								
43°284	CL, M		0°970	265°7	267°0	-5°8			334
			0°762	290°9	237°1	+11°1			623
		4909	0°873	262°3	252°0	-10°0	0	7	441c
		4909	0°860	262°2	250°5	-10°2	0	6	
I.					(190°8)	(-6°8)	(o)	(13)	(1398)
Feb. 13	Centre								
44°265	CL, M		0°939	261°5	248°3	-10°4			249
			0°833	290°3	230°8	+12°7			902
		4912	0°831	282°2	232°4	+6°2	0	6	
		4912	0°811	282°9	230°2	+6°2	0	3	
I.					(177°8)	(-6°9)	(o)	(9)	(1151)
Feb. 14	Centre								
45°306									
I.									
Feb. 15	Centre				(164°1)	(-6°9)	(o)	(o)	(o)
46°195	CL, M		0°973	284°3	226°7	+12°1			648
			0°907	267°8	217°6	-5°0			76
			0°899	249°4	216°8	-21°5			75
Feb. 16	Centre				(152°3)	(-7°0)	(o)	(o)	(799)
47°293									
I.									
Feb. 17	Centre				(137°9)	(-7°0)	(o)	(o)	(o)
48°509									
Feb. 18	Centre				(121°9)	(-7°0)	(o)	(o)	(o)
49°240									
I.									
Feb. 19	Centre				(112°2)	(-7°1)	(o)	(o)	(o)

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the spots with which they are associated are indicated by the letters n, s, p, f, c, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4910, February 8-9. A single spot, following group 4909.
Group 4911, February 11-12. Two small spots on February 11, one on February 12.
Group 4912, February 14. Two small spots.

MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 50 ^d .220 I. Feb. 20		Centre		°	°	°				1900. 59 ^d .192 ¹ I. Mar. 1		Centre		°	°	°			
					(99.4)	(-7.1)	(o)	(o)	(o)						(341.4)	(-7.3)	(o)	(o)	(o)
51.259 I. Feb. 21		Centre			(85.7)	(-7.1)	(o)	(o)	(o)	60.392 I. Mar. 2	CL, M	Centre	0.944	101.1	253.9	-12.8			121
															(325.4)	(-7.3)	(o)	(o)	(121)
52.256 I. Feb. 22	CL, M	Centre	0.972	78.1	357.9	+ 9.8			230	61.209 M. Mar. 3	CL, M	4913 4913 Centre	0.242 0.290	41.0 46.0	305.5 302.6	+ 3.3 + 4.4	o o	8 9	
					(72.5)	(-7.1)	(o)	(o)	(230)						(314.6)	(-7.3)	(o)	(17)	(o)
53.265 M. Feb. 23	CL, M	Centre	0.910	77.7	353.1	-14.1			213	62.211 I. Mar. 4	CL, M	4913 4913 4913 4914 Centre	0.205 0.211 0.204 0.109 0.929	331.8 341.7 353.6 23.6 76.7	306.9 305.1 302.7 298.9 235.2	+ 3.1 + 4.3 + 4.4 - 1.6 + 9.5	2 o 4 o	8 5 19 4	
					(59.3)	(-7.1)	(o)	(o)	(213)						(301.4)	(-7.3)	(6)	(36)	636 (636)
54.221 M. Feb. 24		Centre			(46.7)	(-7.2)	(o)	(o)	(o)	63.198 I. Mar. 5	CL, M	4913 Centre	0.925 0.311 0.877	283.3 308.6 72.1	354.0 302.4 230.1	+ 9.3 + 4.1 + 11.9		1 10	
					(33.0)	(-7.2)	(o)	(o)	(o)						(288.4)	(-7.3)	(1)	(10)	502 (676)
55.259 I. Feb. 25		Centre								64.206 CL, M			0.921	288.1	339.1	+ 13.5			30
													4914	0.462	282.5	301.8	- 0.8	o	1
56.231 I. Feb. 26		Centre			(20.2)	(-7.2)	(o)	(o)	(o)				4194	0.440	279.4	300.7	- 2.4	o	2
													4194	0.411	286.2	298.2	- 0.2	4	6
													4915a	0.270	251.2	290.2	-12.0	8	30
													4915	0.254	248.7	289.1	-12.4	13	49
57.356 I. Feb. 27		Centre			(5.4)	(-7.2)	(o)	(o)	(o)				4915	0.238	243.7	287.7	-13.1	o	7
													4915	0.224	250.4	287.5	-11.4	o	11
													4915b	0.198	246.0	285.7	-11.9	9	26
													4915	0.204	239.3	285.4	-13.1	2	9
Feb. 28	No photograph.									Mar. 6		Centre	0.804	64.3	226.5	+15.6			153 (183)
															(275.1)	(-7.3)	(36)	(141)	

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculæ relative to the Spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets.

The Areas of Spots and Faculæ are expressed in millionths of the Sun's visible Hemisphere.

Group 4913, March 3-5. A few small spots.

Group 4914, March 4-6. A few small unstable spots. The group is not seen on March 5.

Group 4915, March 6-11. Two large spots, *a* and *b*, with smaller companions till March 8. After this date the two large spots are seen alone, and are regular in shape.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 65 ^d .261	CL, M	4915a	0.494	259.5	290.9	-11.6	78	293		1900. 72 ^d .178	CL, M		0.936	279.9	238.0	+6.6			189
		4915	0.460	256.5	288.5	-12.7	2	10		I.			0.898	289.4	230.6	+13.8			176
		4915	0.461	254.5	288.4	-13.6	0	4					0.883	297.1	226.6	+19.8			80
I.		4915	0.451	259.9	288.1	-11.1	0	10		Mar. 14	Centre			(170.1)	(-7.2)	(0)	(0)	(445)	
		4915	0.431	254.8	286.5	-13.1	0	2											
		4915b	0.408	255.1	285.0	-12.7	46	192											
Mar. 7		Centre			(261.3)	(-7.3)	(126)	(511)	(0)	73.194	CL, M		0.961	286.2	228.0	-13.4			222
										I.									
										Mar. 15	Centre				(156.7)	(-7.1)	(0)	(0)	(222)
66.186	CL, M		0.833	279.9	304.2	+4.2		194											
			0.780	273.7	299.9	-1.7		138											
		4915a	0.668	261.1	291.1	-11.3	89	377		74.619									
I.		4915	0.644	261.2	289.3	-11.1	1	10		Mar. 16	Centre				(137.9)	(-7.1)	(0)	(0)	(0)
		4915	0.642	259.8	289.1	-12.0	2	6	573c										
		4915	0.626	261.5	287.9	-10.9	0	3		75.187									
		4915	0.618	258.4	287.2	-12.8	0	4		I.									
Mar. 8		4915b	0.582	258.0	284.6	-12.8	88	350		Mar. 17	Centre				(130.4)	(-7.1)	(0)	(0)	(0)
		Centre			(249.0)	(-7.2)	(180)	(750)	(905)										
										76.507									
67.463	CL, M	4915a	0.851	261.5	291.0	-11.0	49	389		Mar. 18	Centre				(113.0)	(-7.1)	(0)	(0)	(0)
		4915b	0.780	259.2	283.8	-13.0	37	300	758c										
Mar. 9		Centre			(232.2)	(-7.2)	(86)	(689)	(758)										
										77.467									
68.521	CL, M	4915a	0.950	259.8	291.0	-12.0	59	378		Mar. 19	Centre				(100.3)	(-7.0)	(0)	(0)	(0)
		4915b	0.909	258.5	284.3	-13.4	31	246	476c										
Mar. 10		Centre			(218.3)	(-7.2)	(90)	(624)	(476)	78.419									
										Mar. 20	Centre				(87.8)	(-7.0)	(0)	(0)	(0)
69.205	CL, M	4915a	0.986	259.8	290.6	-11.2	63	277											
I.		4915b	0.963	259.1	284.6	-12.4	30	150	769c	79.622									
Mar. 11		Centre			(209.3)	(-7.2)	(93)	(427)	(769)	Mar. 21	Centre				(72.0)	(-7.0)	(0)	(0)	(0)
70.502										80.221									
Mar. 12		Centre			(192.2)	(-7.2)	(0)	(0)	(0)	Mar. 22	Centre				(64.1)	(-6.9)	(0)	(0)	(0)
71.250	CL, M		0.851	281.2	241.1	-13.3		147		81.232	CL, M		0.920	94.5	343.4	-6.9			262
I.			0.886	292.0	240.7	+15.7		75		I.									
Mar. 13		Centre			(182.3)	(-7.2)	(0)	(0)	(222)	Mar. 23	Centre				(50.7)	(-6.9)	(0)	(0)	(262)

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MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1900. 82 ^d .146 I. Mar. 24	CL, M	Centre	0.830	93.5	342.4	- 6.7	(38.7)	(-6.9)	(0)	(197)
83.321 I. Mar. 25	CL, M	4916 Centre	0.441	53.0	2.4	+ 9.0	(23.2)	(-6.8)	(0)	(4)
84.173 I. Mar. 26	CL, M	4916 4917a Centre	0.298 0.982	30.2 100.3	3.2 292.0	+ 8.2 -11.4	(11.9)	(-6.8)	0 68	2 330
85.241 I. Mar. 27	CL, M	4917a Centre	0.910	99.4	291.8	-11.3	(357.8)	(-6.7)	38	204
86.360 I. Mar. 28	CL, M	4917a Centre	0.779 0.972	99.3 83.8	293.2 267.5	-11.4 + 4.4	(343.1)	(-6.7)	38	222
87.445 CL, M	4918 4918 4917a Centre	0.601 0.580 0.601 0.915	297.8 299.3 100.1 96.8	1.4 359.5 291.9 262.2	+10.7 +10.8 -11.3 - 8.9	3 0 46	9 3 233	294 ^c 80	(474)	
88.507 CL, M	4918 4918 4918 9917a Centre	0.764 0.762 0.743 0.398	289.2 288.2 290.4 104.1	1.8 1.8 359.7 291.7	+10.1 + 9.3 +10.3 -11.6	2 10 2 32	9 38 8 209	233 ^c (264)	(233)	
89.487 Mar. 31	TS, CL	4917a Centre	0.188	116.5	292.1	-11.2	(301.9)	(-6.5)	25	220
1900. 90 ^d .469 Apr. 1	TS, M	4917a Centre	0.102	208.3	291.7	-11.6	(288.9)	(-6.4)	25	136
91.197 I. Apr. 2	CL, M	4917a Centre	0.918 0.233	265.5 248.3	346.2 292.0	- 6.6 -11.1	(279.3)	(-6.4)	27	155
92.322 M. Apr. 3	CL, M	4917 4917 4917a 4917 4917 Centre	0.525 0.488 0.466 0.452 0.452	258.9 260.6 258.2 256.6 249.8	296.0 293.7 292.1 291.1 290.4	-11.2 -10.1 -11.0 -11.7 -14.7	0 0 22 2 0	4 1 129 8 2	(144)	(0)
93.473 Apr. 4	TS, M	4917a Centre	0.965 0.682	275.0 260.9	323.3 292.3	+ 3.2 -10.8	(249.2)	(-6.3)	21	109
94.245 I. Apr. 5	CL, M	4917 4917 4917a Centre	0.823 0.813 0.799	262.0 260.9 261.4	294.8 293.8 292.4	-10.2 -11.0 -10.6	(239.1)	(-6.2)	0 0 16	11 3 115
95.291 I. Apr. 6	CL, M	4917a Centre	0.917	260.8	292.3	-10.9	(225.3)	(-6.1)	18	79
96.350 I. Apr. 7	CL, M	4917a Centre	0.985	260.4	292.0	-10.5	(211.3)	(-6.1)	19	103
97.485 I. Apr. 8	CL, M	4919 Centre	0.896	78.3	134.2	+ 7.7	(196.3)	(-6.0)	7	51
									(7)	(51)

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Group 4916, March 25-26. A very small spot.

Group 4917, March 26-April 7. A large composite spot, a, that becomes irregular by April 4, occasionally with small companions.

Group 4918, March 29-30. Two small spots on March 29. A third and larger spot is seen on March 30.

Group 4919, April 8-15. A single spot that diminishes in size, and has broken up by April 12.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued*.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 98 ^d .219 M. Apr. 9	CL, M	4919	0.815	75.4	133.9	+ 8.3	13	48	563 ^f	1900. 106 ^d .175 I. Apr. 17	TS, CL		0.952	76.4	11.2	+ 11.2			94
		Centre			(186.6)	(-5.9)	(13)	(48)	(563)			Centre			(81.6)	(-5.3)	(0)	(0)	(94)
99.515 Apr. 10	TS, M	4919	0.616	68.1	134.3	+ 8.5	5	23		107.481 Apr. 18	TS, M		0.923	283.9	132.1	- 14.9			316
		Centre			(169.5)	(-5.9)	(5)	(23)	(0)			Centre			(64.3)	(-5.3)	(0)	(0)	(316)
100.494 I. Apr. 11	CL, M	4919	0.446	57.7	134.3	+ 8.4	4	15		108.251 I. Apr. 19	TS, CL		0.978 0.996	281.5 85.0	130.8 330.1	+ 10.1 + 4.5			341 1008
		Centre			(156.6)	(-5.8)	(4)	(15)	(0)			4920 Centre			(54.2)	(-5.2)	0 (0)	47 (47)	(441)
101.450 Apr. 12	TS, M	4919 4919	0.302 0.293	34.1 41.3	134.2 132.8	+ 8.8 + 7.1	4 2	16 8		109.446 Apr. 20	TS, M	4920	0.919	83.5	332.4	+ 3.9			746 ^f
		Centre			(144.0)	(-5.7)	(6)	(24)	(0)			Centre			(38.4)	(-5.2)	9 (9)	41 (41)	(746)
102.458 Apr. 13	TS, M	4919 4919 4919 4919	0.257 0.218 0.264 0.297	345.3 344.3 349.5 350.7	134.4 134.0 133.4 133.4	+ 8.8 + 6.5 + 9.4 + 11.4	6 0 0 0	11 2 1 1		110.457 Apr. 21	TS, M	4920	0.965 0.910 0.806	285.2 259.5 81.7	97.9 91.1 332.2	+ 13.3 - 12.3 + 3.6			74 83 548 ^f
		Centre			(130.6)	(-5.6)	(6)	(15)	(0)			Centre			(25.0)	(-5.0)	11 (11)	32 (32)	(705)
103.168 I. Apr. 14	TS, M	4919 4919 4919 4919	0.333 0.321 0.346 0.307	317.1 320.3 324.5 318.8	134.5 133.2 133.1 132.8	+ 8.7 + 8.8 + 10.8 + 7.9	2 0 0 0	8 2 2 1		111.204 M. Apr. 22	TS, C	4920	0.692	79.1	332.4	+ 3.9			
		Centre			(121.3)	(-5.6)	(2)	(13)	(0)			Centre			(15.1)	(-4.9)	8 (8)	18 (18)	(0)
104.160 I. Apr. 15	CL, M	4919	0.505	298.0	134.9	+ 8.8	0	3		112.461 Apr. 23	TS, M	4920	0.458 0.899	72.3 102.1	332.7 294.3	+ 3.7 - 13.0			20 277
		Centre										Centre			(358.5)	(-4.8)	4 (4)	20 (20)	(277)
105.519 Apr. 16		Centre			(90.2)	(-5.4)	(0)	(0)	(0)	113.449 Apr. 24	TS, M	4921 4921 4921 4921 4920	0.133 0.146 0.127 0.166 0.262	188.0 184.8 182.5 168.3 57.0	346.6 346.2 345.8 343.5 332.8	- 12.3 - 13.0 - 12.0 - 14.0 + 3.6			6 2 2 23 16
												Centre			(345.5)	(-4.7)	5 (11)	16 (49)	(0)

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The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4920, April 19-26. A small regular spot, with two small companions on April 25.
Group 4921, April 24-29. A few unstable irregular spots.

MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued*.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1900. 114 ^d .255	TS, CL	4921	0°253	237°8	347°4	-12°3	5	19		
I.		4921	0°253	234°3	346°9	-13°0	0	4		
		4921	0°232	236°1	346°1	-11°9	3	13		
		4921	0°207	224°3	343°3	-13°0	5	17		
		4921	0°220	219°4	343°0	-14°3	4	16		
		4920	0°151	11°2	333°1	+3°9	5	15		
		4920	0°146	18°7	332°1	+3°3	0	3		
		4920	0°199	37°3	327°9	+4°5	0	2		
	Centre				(334°8)	(-4°6)	(22)	(89)	(0)	
Apr. 25										
115°436	TS, M	4921	0°517	253°7	349°6	-12°2	0	7		
I.		4921	0°504	252°6	348°6	-12°6	0	7		
		4921	0°471	252°0	346°4	-12°4	0	2		
		4921	0°437	244°9	343°3	-14°8	0	4		
		4921	0°431	247°2	343°2	-13°7	0	12		
		4921	0°431	246°9	343°2	-13°8	0	10		
		4920	0°292	299°2	333°9	+3°8	5	11		
		4922	0°269	52°7	306°8	+5°0	3	10		
		4922	0°300	55°2	304°9	+5°5	0	3		
		4922	0°988	96°1	238°0	-6°7			153	
	Centre				(319°2)	(-4°5)	(8)	(66)	(153)	
Apr. 26										
116°189	TS, CL	4921	0°667	256°7	350°7	-12°1	0	2		
I.		4921	0°576	251°8	343°5	-14°0	0	10		
		4923	0°426	264°3	334°4	-6°4	6	10		
		4922	0°163	8°2	308°0	+4°8	0	2		
		4922	0°153	16°2	306°9	+4°3	0	1		
		4922	0°184	20°2	305°7	+5°5	0	2		
		4922	0°161	27°0	305°1	+3°8	0	2		
		4924	0°959	94°7	235°7	-5°8	0	8	263c	
		4925a	0°987	98°5	228°1	-9°2	9	37	216	
	Centre				(309°3)	(-4°4)	(15)	(74)	(479)	
Apr. 27										
117°250	TS, CL	4921	0°807	258°1	348°9	-12°2	7	20	150c	
I.		4921	0°751	255°1	343°4	-14°0	0	2	46c	
		4923	0°637	265°8	334°7	-6°0	3	8		
		4924	0°840	95°3	238°0	-6°8	0	8		
		4924	0°852	94°1	236°8	-5°8	0	9	127c	
		4925a	0°921	97°8	228°0	-8°9	26	125	517c	
		4925b	0°943	98°0	224°4	-9°0	15	93		
	Centre				(295°2)	(-4°3)	(51)	(265)	(840)	
Apr. 28										
1900. 118 ^d .227	TS, CL	4921	0°921	258°6	350°1	-12°1	0	6	3468f	
I.		4923	0°794	266°3	335°4	-5°5	0	3	58f	
		4926a	0°256	58°2	270°4	+3°6	16	35		
		4926	0°308	63°4	266°9	+3°9	0	8		
		4926	0°328	60°8	266°3	+5°2	0	2		
		4926	0°322	64°6	266°0	+3°9	0	2		
		4926	0°339	65°6	264°9	+4°0	0	1		
		4927	0°651	94°7	242°3	-6°3	3	8		
		4927	0°669	96°2	241°0	-7°3	4	23		
		4927	0°676	94°0	240°4	-5°8	0	14		
		4924	0°701	93°8	238°4	-5°6	5	36		
		4924	0°706	95°1	238°0	-6°6	15	73		
		4924	0°738	95°2	235°4	-6°7	0	3		
		4924	0°744	96°3	234°9	-7°5	0	3		
		4924	0°759	97°3	233°6	-8°3	0	5		
		4924	0°760	99°0	233°5	-9°6	0	8		
		4925a	0°810	97°8	228°8	-8°8	22	104		
		4925b	0°847	98°1	225°0	-9°1	10	100		
	Centre				(282°9)	(-4°2)	(75)	(434)	(1207)	
Apr. 29										
119°272	TS, M		0°975	256°5	346°0	-14°1			512	
I.			0°896	277°1	331°4	+4°5			317	
		4926a	0°158	337°6	272°0	+4°3	28	128		
		4926	0°165	356°8	269°0	+5°4	0	2		
		4926	0°132	6°0	267°7	+3°4	0	4		
		4926	0°162	15°5	266°0	+4°9	4	11		
		4926	0°145	17°5	266°0	+3°8	0	6		
		4927a	0°417	96°2	244°0	-6°3	26	88		
		4927	0°434	96°6	242°9	-6°6	10	34		
		4927	0°478	96°0	240°0	-6°5	0	8		
		4927	0°491	96°6	239°2	-6°8	0	10		
Apr. 30		4924a	0°510	94°9	237°9	-6°0	55	271		
		4924	0°542	96°9	235°8	-7°2	0	12		
		4924	0°573	97°1	233°7	-7°4	0	4		
		4925a	0°640	98°6	228°9	-8°7	23	145		
		4925	0°686	98°8	225°3	-9°1	2	16		
	Centre				(268°5)	(-4°1)	(148)	(739)	(1105)	
120°160	TS, M		0°977	272°6	334°2	+1°7			44	
I.			0°959	277°7	329°5	+6°2			364	
		4926	0°332	294°9	274°3	+4°2	0	3		
		4926a	0°316	295°4	273°4	+4°0	22	116		

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Group 4922, April 26-27. A few very small unstable spots.

Group 4923, April 27-29. One very small spot.

Group 4924, April 27-May 6. An irregular large spot, *a*, on April 30, May 1 and 2. It has broken up on May 3, and by May 5 the spots have diminished in size, and are extended in a long stream, and the division between this group and Group 4927 becomes somewhat arbitrary.

Group 4925, April 27-May 6. A large spot, *a*, which has broken up by May 4, followed by a second large spot, *b*, on April 28 and 29, and subsequently accompanied by a few small spots. This group follows Group 4924.

Group 4926, April 29-May 5. A large spot, *a*, which rapidly diminishes after May 3; on May 2 there is a considerable spot preceding *a*.

Group 4927, April 29-May 8. A large spot, *a*, with a forward movement in longitude. This group precedes Group 4924.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACUL.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	FACUL.
1900. 120 ^d 160	TS, M	4926	0°277	288°3	272°0	+ 1°1	0	1	
		4926	0°272	296°9	270°8	+ 3°2	0	2	
		4926	0°256	298°3	269°8	+ 3°1	0	1	
		4926	0°227	301°3	267°9	+ 2°8	0	2	
		4926	0°208	307°6	266°3	+ 3°3	0	1	
		4926	0°225	314°4	266°0	+ 5°0	0	2	
		4927a	0°212	101°8	244°8	- 6°4	22	88	
		4927	0°239	110°3	243°8	- 8°6	0	6	
		4927	0°287	97°6	240°3	- 6°0	0	3	
		4924a	0°320	97°4	238°3	- 6°2	51	293	
		4924	0°358	99°5	236°1	- 7°1	0	2	
		4925a	0°476	100°5	228°7	- 8°5	24	140	
		4925	0°501	99°2	227°0	- 8°1	0	6	
		4925	0°503	101°8	227°0	- 9°4	0	5	
		4925	0°521	100°5	225°7	- 8°9	0	10	
May 1	Centre				(256°8)	(-4°0)	(119)	(681)	(408)
121 ^d 143	TS, M	4926	0°537	287°7	274°6	+ 6°1	11	50	
		4926a	0°520	285°1	273°9	+ 4°4	22	107	
		4926	0°430	285°2	268°2	+ 2°9	0	4	
		4927a	0°054	207°4	245°2	- 6°0	15	72	
		4927	0°091	137°3	240°2	- 7°8	0	2	
		4927	0°084	129°6	240°1	- 7°0	8	33	
		4924a	0°102	114°2	238°4	- 6°3	45	231	
		4925a	0°269	108°6	228°9	- 8°7	27	119	
		4925	0°282	115°6	228°9	- 10°7	0	2	
		4925	0°294	106°5	227°3	- 8°5	0	1	
		4925	0°317	107°0	226°0	- 9°1	0	3	
May 2					(243°8)	(-3°9)	(128)	(624)	(0)
122 ^d 172	TS, M	4926	0°723	281°9	275°4	+ 5°9	0	4	
		4926a	0°708	280°7	274°3	+ 4°8	10	49	
		4926	0°605	280°9	266°6	+ 3°5	0	1	
		4927a	0°273	258°2	245°7	- 6°9	17	100	
		4927	0°198	248°9	240°9	- 7°9	2	7	
		4927	0°184	253°1	240°4	- 6°8	0	7	
		4924	0°157	254°0	238°9	- 6°2	23	94	
		4924	0°157	249°6	238°7	- 6°9	12	75	
		4924	0°140	231°4	236°5	- 8°8	0	5	
		4924	0°130	235°1	236°4	- 8°1	0	3	
		4925a	0°085	170°7	229°4	- 8°6	18	158	
May 3	Centre				(230°2)	(-3°8)	(82)	(503)	(0)
1900. 123 ^d 143	TS, M	4926	0°849	278°4	274°7	+ 5°2	4	10	660c
		4927a	0°481	261°8	245°9	- 7°2	15	79	
		4927	0°423	262°3	242°3	- 6°6	0	6	
		4924	0°388	264°2	240°1	- 5°7	5	16	
		4924	0°370	264°3	239°0	- 5°6	6	21	
		4924	0°371	260°0	238°9	- 7°1	29	69	
		4924	0°357	262°8	238°2	- 6°0	2	7	
		4925	0°256	248°7	231°3	- 8°8	0	3	
		4925	0°247	246°7	230°6	- 9°1	4	9	
		4925	0°227	248°6	229°7	- 8°4	14	33	
May 4	Centre				(217°4)	(-3°7)	(79)	(253)	(66e)
124 ^d 137	TS, M	4926	0°948	276°5	275°0	+ 5°0	3	21	821c
		4927a	0°669	263°1	246°1	- 7°3	17	71	
		4927	0°632	263°9	243°3	- 6°7	0	3	
		4927	0°622	264°7	242°6	- 6°1	5	13	
		4927	0°604	264°7	241°2	- 6°0	0	1	
		4924	0°586	264°2	240°0	- 6°3	0	12	
		4924	0°584	266°0	239°9	- 5°3	3	14	
		4924	0°574	266°2	239°2	- 5°2	7	12	
		4924	0°571	266°7	239°0	- 4°9	5	10	
		4924	0°569	262°3	239°0	- 10°3	1	6	
		4924	0°563	264°4	238°3	- 6°2	0	12	
		4925	0°467	258°3	231°6	- 8°7	3	14	
		4925	0°440	258°6	229°9	- 8°2	0	10	
May 5	Centre				(204°2)	(-3°6)	(44)	(199)	(821)
125 ^d 148	TS, M	4927a	0°976	276°1	262°8	+ 5°1			415
		4927	0°820	263°4	245°8	- 7°4	14	64	
		4927	0°786	265°2	242°6	- 5°9	4	21	
		4927	0°771	264°8	241°2	- 6°3	0	5	
		4927	0°771	266°2	241°2	- 5°2	0	2	
		4924	0°754	264°8	239°6	- 6°2	3	12	
		4924	0°752	266°4	239°5	- 5°0	11	30	
		4924	0°740	266°1	238°5	- 5°2	1	2	
		4925	0°667	261°1	232°4	- 8°6	1	6	
		4925	0°636	262°9	230°1	- 7°2	6	13	
		4925	0°628	263°9	229°6	- 6°6	0	2	
May 6	Centre				(190°8)	(-3°5)	(40)	(157)	(836)

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The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued*.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 126 ^d .248 M. May 7	TS, C	4927a 4927 4927 Centre	0.945 0.932 0.899	263.0 264.1 266.3	247.3 245.1 240.5	- 7.8 - 6.7 - 4.8	13 0 0	67 3 5	194 ^f (194)	1900. 134 ^d .150 I. May 15	TS, M	4928 4928 Centre	0.921 0.217 0.183 0.981	282.6 248.8 240.1 105.4	137.6 83.4 80.9 7.3	- 10.6 - 7.0 - 7.7 - 15.7	0 0 0	10 6	132 6 222 (354)
127.177 I. May 8	TS, M	4927a Centre	0.990	262.3	246.0	- 8.1	0	38	1271 ^c (1271)	135.452 May 16	TS, M	Centre	0.909	105.5	349.7 (54.5)	- 15.0 (- 2.3)	(0)	(0)	325 (325)
128.138 I. May 9	TS, M	Centre	0.972	262.3	227.8	- 8.2	(0)	(0)	474 (474)	136.471 May 17	TS, M	Centre	0.929	83.7	333.4 (41.1)	+ 5.1 (- 2.2)	(0)	(0)	173 (173)
129.150 I. May 10	TS, M	Centre					(0)	(0)	(0)	137.218 I. May 18	TS, M	Centre	0.886	83.1	30.6 (31.2)	+ 5.2 (- 2.1)	(0)	(0)	188 (188)
130.212 I. May 11	TS, M	Centre	0.941	100.1	53.8	- 10.5	(0)	(0)	328 (328)	138.192 I. May 19	TS, M	Centre	0.981	280.1	96.4 (18.3)	+ 9.5 (- 2.0)	(0)	(0)	119 (119)
131.209 I. May 12	TS, M	Centre	0.837	101.2	54.1	- 10.9	(0)	(0)	123 (123)	139.127 I. May 20	TS, M	Centre	0.899 0.933	260.1 106.3	69.7 62.4 (5.9)	- 9.8 - 15.9 (- 1.9)	(0)	(0)	196 178 (374)
132.293 I. May 13	TS, M	Centre	0.951	175.1	80.5	- 73.7	(0)	(0)	166 (166)	140.520 May 21	TS, M	4929a Centre	0.969	85.3	272.2 (347.5)	+ 4.1 (- 1.8)	17 (17)	104 (104)	403 ^c (403)
133.645 May 14	TS, M	4928 4928 Centre	0.114 0.103	229.8 213.8	83.5 81.8	- 6.8 - 7.5	4 0	16 5	987 ^f 401 (1388)	141.221 I. May 22	TS, M	4929a Centre	0.937 0.931	281.2 84.9	46.9 270.1 (338.3)	+ 9.9 + 4.2 (- 1.6)	49 (49)	233 (233)	92 1678 ^c (1770)
	TS, M	4929a Centre	0.814 0.977	84.4 98.2	270.9 247.3	+ 3.7 - 8.4	42 (42)	227 (227)		142.227 I. May 23	TS, M	4929a Centre	0.814 0.977	84.4 98.2	270.9 247.3	+ 3.7 - 8.4	42 (42)	227 (227)	987 ^f 401 (1388)

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Group 4928, May 14-15. Two small spots.

Group 4929, May 21-June 1. A large spot, *a*, which has broken up by May 27, after which the group rapidly diminishes in size.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued*.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 143 ^d .158	TS, M	4929a	0.667	82.7	271.2	+ 3.8	32	207	531 ^f 1040 (1571)	1900. 148 ^d .516	TS, M	4929a	0.540	279.7	273.8	+ 4.6	12	30	(o)
I.		4929	0.701	79.9	268.8	+ 6.1	0	2			4929	0.528	280.2	273.0	+ 4.7	2	12		
		4929	0.750	83.2	264.5	+ 4.2	0	2			4930	0.133	172.9	240.8	- 8.4	0	3		
May 24	Centre		0.938	101.3	243.2	- 11.1	(312.6)	(- 1.4)			4930	0.125	161.9	239.5	- 7.6	0	1		
144.176	TS, M	4929a	0.470	78.9	271.8	+ 4.1	33	154	366 (366)	May 29	Centre		0.125	146.1	237.7	- 6.7	0	3	(o)
I.			0.868	101.6	239.5	- 10.7	(299.2)	(- 1.3)					(241.7)	(- 0.8)	(14)	(54)			
May 25	Centre						(33)	(154)		149.123	TS, M	4929a	0.645	277.5	273.4	+ 4.3	8	27	
											4930	0.249	240.2	246.2	- 7.8	0	16		
145.199	TS, M		0.986	261.8	5.8	- 8.3			43 34 (77)	I.		4930	0.236	233.7	244.7	- 8.7	4	9	(o)
I.			0.946	251.9	355.9	- 17.5					4930	0.208	236.2	243.7	- 7.3	0	3		
May 26	Centre		0.248	68.2	272.3	+ 4.2	24	124		May 30	Centre		0.207	227.1	242.5	- 8.8	0	5	
					(285.6)	(- 1.2)	(24)	(124)						(233.7)	(- 0.7)	(12)	(60)		
146.486	TS, M	4929a	0.126	318.1	273.4	+ 4.3	8	34	(o)	151.125	TS, M	4929a	0.805	275.6	273.6	+ 4.2	6	16	579 ^p 579 ^c (579)
		4929	0.104	319.3	272.5	+ 3.4	4	9		I.		4930	0.492	252.5	248.6	- 9.0	4	11	
		4929	0.138	337.9	271.7	+ 6.2	0	1			4930	0.452	253.7	246.3	- 7.8	3	20		
		4929	0.130	335.2	271.7	+ 5.6	0	2		May 31	Centre		0.421	253.1	244.3	- 7.5	0	6	
		4929	0.120	337.7	271.2	+ 5.2	0	1						(220.4)	(- 0.6)	(13)	(53)		
		4929	0.146	348.0	270.3	+ 7.1	0	1		151.266	TS, M		0.890	279.0	267.7	+ 7.8			
		4929	0.112	344.9	270.3	+ 5.1	0	2			4929a	0.934	274.7	274.1	+ 4.2	1	9		
		4930	0.460	105.6	242.1	- 8.1	2	8		I.		4930	0.702	258.4	249.3	- 8.5	14	42	
		4930	0.468	106.0	241.7	- 8.4	5	14			4930	0.657	258.0	245.7	- 8.2	1	7		
May 27	Centre		0.523	106.1	238.1	- 9.2	2	9		June 1	Centre		0.627	257.5	243.5	- 8.2	0	4	
					(268.6)	(- 1.1)	(21)	(81)						(205.4)	(- 0.5)	(16)	(62)		
147.444	TS, M	4929a	0.318	285.9	273.7	+ 4.2	13	37	(o)	June 2	No photograph.							327 ^f (327)	
		4929	0.301	281.5	273.0	+ 2.6	5	12											
		4929	0.303	288.5	272.6	+ 4.7	0	6		153.658	TS, M	4930	0.981	262.4	252.2	- 7.5	18	95	
		4930	0.241	123.7	244.3	- 8.5	0	8		June 3	Centre				(173.7)	(- 0.2)	(18)	(95)	
		4930	0.249	123.0	243.8	- 8.6	0	2											
		4930	0.258	120.7	243.0	- 8.4	1	6		154.481	Centre				(162.8)	(- 0.1)	(o)	(o)	
		4930	0.285	118.9	241.3	- 8.8	2	8		June 4									
		4930	0.321	110.5	238.3	- 7.3	0	5											
		4930	0.339	114.1	237.7	- 8.8	0	3											
May 28	Centre				(255.9)	(- 0.9)	(21)	(87)											

The Groups of Spots are numbered in the order of their appearance. When there is no number in the third column, it is to be understood that there is a Facula unaccompanied by a Spot. The positions of Faculae relative to the Spots with which they are associated are indicated by the letters *n*, *s*, *p*, *f*, *c*, denoting respectively north, south, preceding, following, concentric. The longitude and latitude of the centre of the disk are given in brackets. The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4930, May 27-June 3. A cluster of small spots. The leader has attained a considerable size by June 1.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC.		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC.		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1900. 155 ^d .665 June 5		Centre		°	°	°				1900. 165 ^d .168 June 15	TS, M	4931 I. 4931 Centre	0.826 0.854	86.5 87.0	° °	325.8 322.9 (21.3)	+ 3.6 + 3.2 (+ 1.2)	6 0 (6)	17 7 (24)	107 ^c (107)
156.636 June 6		Centre			(134.3)	(+ 0.2)	(0)	(0)	(0)	166.266 I.	TS, M	4931a 4931 4931 4931b Centre	0.652 0.669 0.697 0.700	86.3 85.9 86.9 85.4	326.3 325.0 322.8 322.6 (6.8)	+ 3.5 + 3.8 + 3.2 + 4.2 (+ 1.4)	36 4 0 12 (52)	108 12 6 66 (192)	(0)	
157.241 I. June 7		Centre			(126.3)	(+ 0.3)	(0)	(0)	(0)	167.624 TS, M	4931a 4931 4931 4931 4931b Centre	0.341 0.357 0.368 0.404 0.417 0.911	84.6 87.1 85.5 89.4 84.0 83.8	329.1 328.1 327.4 325.2 324.4 283.5 (348.9)	+ 3.3 + 2.4 + 3.1 + 1.6 + 3.9 + 6.3 (+ 1.5)	35 0 0 0 13 (48)	170 3 5 3 80 (261)	141 (141)		
158.634 June 8		Centre			(107.8)	(+ 0.4)	(0)	(0)	(0)	168.227 TS, M	4931a 4931 4931 4931 4931 4931 4931b Centre	0.224 0.241 0.255 0.285 0.294 0.311 0.313 0.891	81.2 86.1 83.8 80.9 90.0 86.3 81.7 85.0	328.0 326.9 326.2 324.5 323.8 322.8 322.8 278.0 (340.8)	+ 3.5 + 2.5 + 3.1 + 4.2 + 1.6 + 2.7 + 4.2 + 5.2 (+ 1.6)	39 2 0 0 3 5 12 (61)	185 9 21 8 11 16 59 (309)	461 (461)		
159.161 I. June 9		Centre			(100.9)	(+ 0.5)	(0)	(0)	(0)	169.643 TS, C	4931a 4931 4931 4931 4931 4931 4931 4932a Centre	0.116 0.094 0.077 0.050 0.029 0.033 0.014	287.8 278.9 293.8 306.5 321.2 323.1 338.3 98.9	328.4 327.4 326.1 324.4 323.1 322.8 256.8 (322.1)	+ 3.7 + 2.5 + 3.5 + 3.4 + 3.0 + 3.5 - 7.4 (+ 1.7)	35 9 0 0 0 0 9 (53)	115 32 4 10 2 6 33 (202)	(0)		
160.461 June 10		Centre			(83.6)	(+ 0.7)	(0)	(0)	(0)	164.202 TS, M										
161.483 June 11		Centre			(70.1)	(+ 0.8)	(0)	(0)	(0)	164.202 I.										
162.128 I. June 12	TS, M	Centre	0.962	88.3	347.7	+ 1.9			148	164.202 I.										
					(61.6)	(+ 0.9)	(0)	(0)	(148)	164.202 I.										
163.275 I. June 13		Centre			(46.4)	(+ 1.0)	(0)	(0)	(0)	164.202 I.										
164.202 I. June 14	TS, M	Centre	0.885 0.950 0.948	83.5 106.1 87.2	333.1 324.4 323.8 (35.1)	+ 6.3 - 15.0 + 3.0 (+ 1.1)			16 29 67 (112)	164.202 I.										

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Group 4931, June 15-24. Principally two spots, *a* foremost, *b* hindmost, with several small spots intervening; *a* is the more prominent and the larger of the two; *b* is not seen on June 19.
Group 4932, June 19-26. A single spot, *a*, with a small companion on June 24.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULAE.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 170 ^d .198	TS, M	4931a	0.238	278.9	329.0	+ 3.9	26	118		1900. 176 ^d .187	TS, C	4932a	0.401	245.6	256.9	- 7.2	4	12	
		4931	0.212	276.2	326.9	+ 3.1	6	60		I.		Centre			(235.4)	(+ 2.5)	(4)	(12)	(0)
		4931	0.194	283.2	325.7	+ 4.3	0	2		June 26									
		4931	0.188	271.1	325.6	+ 2.0	0	2											
I.		4931	0.191	282.6	325.5	+ 4.2	0	5		177.198									
		4931b	0.165	278.0	324.2	+ 3.1	10	59		I.		Centre			(222.1)	(+ 2.6)	(0)	(0)	(0)
June 20		4932a	0.862	99.4	256.0	- 7.3	24	96	576f	June 27	TS, C								
		Centre			(314.8)	(+ 1.8)	(66)	(342)	(576)										
171.188	TS, C	4931a	0.453	275.4	328.4	+ 4.2	38	96		178.534									
		4931	0.441	272.0	327.7	+ 2.6	5	11		June 28		Centre			(204.5)	(+ 2.8)	(0)	(0)	(0)
		4931	0.425	274.2	326.6	+ 3.5	13	25											
I.		4931	0.411	272.9	325.8	+ 2.9	0	3		179.483	TS, C	4933a	0.855	260.0	249.6	- 7.0	280	443	138c
		4931b	0.383	273.4	324.0	+ 3.1	18	86		June 29		Centre			(191.8)	(+ 2.9)	(280)	(443)	(138)
June 21		4932a	0.721	101.9	256.5	- 7.2	16	49											
		Centre			(301.6)	(+ 1.9)	(90)	(270)	(0)										
172.214	TS, C	4931a	0.643	274.9	327.9	+ 4.3	36	131		180.159	TS, C	4933	0.977	262.0	259.9	- 7.2	5	16	
		4931	0.632	273.3	327.1	+ 3.7	0	3		I.		4933a	0.932	261.4	250.8	- 6.9	372	682	251c
		4931	0.619	275.2	326.2	+ 4.9	6	11		June 30		Centre			(182.9)	(+ 3.0)	(377)	(698)	(251)
M.		4931	0.608	274.3	325.4	+ 4.3	0	7											
		4931b	0.588	273.6	324.0	+ 3.9	21	104		181.184	TS, C								
June 22		4932a	0.543	106.6	256.6	- 7.1	20	47		I.		4933	0.955	310.8	239.2	+ 39.7	111	222	45
		Centre			(288.1)	(+ 2.1)	(83)	(303)	(0)			4933	0.993	264.0	252.0	- 5.6	103	212	699c
										July 1		Centre			(169.4)	(+ 3.1)	(214)	(434)	(744)
173.467	TS, C	4931a	0.836	274.3	328.1	+ 4.8	13	33		182.197	TS, C								
		4931	0.800	269.5	324.3	+ 0.9	0	14		I.									
June 23		4932a	0.294	121.9	257.0	- 6.8	4	19		July 2		Centre			(155.9)	(+ 3.2)	(0)	(0)	(520)
		Centre			(271.5)	(+ 2.2)	(17)	(66)	(0)										
174.209	TS, M	4931a	0.917	273.1	328.0	+ 3.7	31	88		183.454	TS, C	4934	0.923	280.3	206.6	+ 10.7	13	38	
		4931	0.892	271.4	324.6	+ 2.3	0	20				4934	0.907	279.7	204.3	+ 10.2	4	20	36c
I.		4932	0.209	171.6	259.8	- 9.6	0	1		July 3		Centre			(139.3)	(+ 3.3)	(17)	(61)	(36)
June 24		4932a	0.188	152.9	256.7	- 7.3	6	15											
		Centre			(261.6)	(+ 2.3)	(37)	(124)	(545)										
175.683	TS, C	4932a	0.305	237.7	257.2	- 7.0	0	9		184.246	TS, C	4934	0.978	280.0	206.9	+ 10.5	32	86	164f
June 25		Centre			(242.2)	(+ 2.4)	(0)	(9)	(0)	I.		Centre			(128.8)	(+ 3.4)	(32)	(86)	(211)
										July 4									

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The Areas of Spots and Faculae are expressed in millionths of the Sun's visible Hemisphere.

Group 4933, June 29–July 1. A very large spot, *a*, that has broken into two portions just before disappearing behind the Sun's limb.

Group 4934, July 3–4. Two spots with a small companion on July 3; on July 4 the group is seen close to the Sun's limb.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued*.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 185 ^d 631 July 5		Centre		°	°	°				1900. 196 ^d 488 July 16	TS, C	4935 ^a 4935 4935 Centre	0·873 0·915 0·923 100·0	100·4 99·1 100·0 (326·9)	267·3 261·7 260·7 (+4·6)	— 6·8 — 6·4 — 7·4 (28)	22 6 0 (95)	74 18 3 (95)	900 ^c (900)
186·462 July 6		Centre			(99·5)	(+3·6)	(0)	0	(0)	197·470 July 17	TS, C	4935 ^a 4935 4935 4935 4935 4935 Centre	0·737 0·744 0·762 0·772 0·783 0·800 (313·8)	103·3 104·7 103·3 104·6 102·5 101·2 (+4·7)	267·8 267·4 265·7 265·0 263·7 261·9 (+4·7)	— 6·5 — 7·7 — 7·0 — 8·1 — 6·7 — 6·0 (31)	23 0 0 0 0 8 (123)	67 2 7 15 6 26 (123)	714 ^f (714)
187·416 I. July 7		Centre			(86·9)	(+3·7)	(0)	(0)	(0)	198·480 July 18	TS, C	4935 ^a 4935 4935 4935 4935 Centre	0·567 0·620 0·618 0·646 0·661 (300·5)	108·9 111·0 107·3 105·9 111·0 (+4·8)	268·0 264·8 264·2 261·9 261·9 (+4·8)	— 6·5 — 8·9 — 6·7 — 6·5 — 9·9 (41)	38 0 0 3 0 (160)	141 2 2 9 6 (160)	236 ^f (236)
188·489 July 8		Centre			(72·6)	(+3·8)	(0)	(0)	(0)	199·470 July 19	TS, C	4935 ^a 4935 4935 4935 4935 4935 Centre	0·926 0·373 0·386 0·420 0·434 0·465 0·508 (287·4)	256·9 120·1 119·8 117·5 115·6 114·0 120·2 (+4·9)	353·5 268·5 267·8 265·5 264·3 262·2 261·0 (+4·9)	— 10·2 — 6·2 — 6·4 — 6·6 — 6·3 — 6·5 — 10·4 (33)	26 7 0 0 0 0 0 (146)	98 39 1 2 5 1 (146)	191 (191)
189·228 M. July 9		Centre			(62·9)	(+3·9)	(0)	(0)	(0)	200·460 July 20	TS, C	4935 ^a 4935 4935 4936 Centre	0·215 0·238 0·233 0·902 (274·2)	152·2 151·3 148·7 80·5 (+5·0)	268·4 267·6 267·2 209·6 (+5·0)	— 6·0 — 7·0 — 6·5 + 10·7 (38)	25 0 9 4 (145)	99 7 25 14 (145)	97 ^f (97)
190·429 July 10		Centre			(47·0)	(+4·0)	(0)	(0)	(0)	201·246 I. July 21	TS, C	4935 ^a 4935 4936 Centre	0·205 0·212 0·810 (263·9)	203·6 197·1 80·4 (+5·1)	268·6 267·5 209·6 (+5·1)	— 5·6 — 6·5 + 11·4 (34)	23 6 5 (99)	70 12 17 (99)	(0)
191·463 July 11	TS, C	Centre	0·902	87·5	328·9 + 4·0 (33·3)	(+4·1)	(0)	(0)	251 (251)										
192·472 July 12	TS, C	Centre	0·917	271·5	86·4 + 3·1 (20·0)	(+4·2)	(0)	(0)	227 (227)										
193·531 July 13		Centre			(6·0)	(+4·3)	(0)	(0)	(0)										
194·479 July 14		Centre			(353·4)	(+4·4)	(0)	(0)	(0)										
195·451 July 15	TS, C	4935 ^a Centre	0·966	98·8	266·5 — 7·3 (340·5)	(+4·5)	18 (18)	83 (83)	(0)										

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Group 4935, July 15–25. A large spot, *a*, followed by small companions; *a* is composite at first, but becomes regular.
Group 4936, July 20–23. A small spot, near the eastern limb of the Sun.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued*.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).
1900. 202 ^d .251	TS, C	4935a	0.367	240.1	269.2	- 5.6	12	36		1900. 211 ^d .485	TS, C		0.864	98.3	69.6	- 4.2			225
M. July 22		4935	0.372	233.4	268.1	- 7.9	2	6		I.		Centre	0.927	119.6	66.1	- 24.6			600
		4935	0.361	235.6	268.0	+ 6.9	4	6		July 31					(128.4)	(+ 5.8)	(o)	(o)	(825)
		4936	0.646	80.4	210.5	+ 10.1	3	9											
		Centre			(250.6)	(+ 5.1)	(21)	(57)	(o)										
										212.290									
										I.		Centre			(117.8)	(+ 5.9)	(o)	(o)	(o)
203.252	TS, C	4935a	0.557	252.0	269.3	- 5.5	11	27		Aug. 1									
M. July 23		4935	0.527	250.7	267.2	- 5.5	4	8											
		4936	0.458	77.2	210.4	+ 10.5	5	10		213.478		Centre			(102.1)	(+ 6.0)	(o)	(o)	(o)
		Centre			(237.3)	(+ 5.2)	(20)	(45)	(o)	Aug. 2									
										214.176									
										I.		Centre			(92.9)	(+ 6.0)	(o)	(o)	(o)
204.467	TS, C	4935a	0.762	257.6	269.4	- 5.9	4	37		Aug. 3									
July 24		Centre			(221.2)	(+ 5.3)	(4)	(37)	(o)										
										215.483									
205.487	TS, C	4935a	0.887	260.7	269.2	- 5.6	0	26		Aug. 4		Centre			(75.5)	(+ 6.1)	(o)	(o)	(o)
July 25		Centre			(207.8)	(+ 5.4)	(o)	(26)	553 ^f (553)										
										216.359									
										I.		Centre			(64.0)	(+ 6.2)	(o)	(o)	(o)
206.484										Aug. 5									
July 26		Centre			(194.6)	(+ 5.5)	(o)	(o)	(o)										
										217.227									
207.530										I.		Centre			(52.5)	(+ 6.3)	(o)	(o)	o
July 27		Centre			(180.7)	(+ 5.6)	(o)	(o)	(o)	Aug. 6									
208.320																			
I.										218.533	TS, C	4937	0.933	87.2	326.2	+ 4.9	o	17	54 ^c
July 28		Centre			(170.3)	(+ 5.6)	(o)	(o)	(o)	Aug. 7		Centre			(35.3)	(+ 6.3)	(o)	(17)	(54)
209.467																			
July 29		Centre			(155.1)	(+ 5.7)	(o)	(o)	(o)										
										219.306	TS, C	4937	0.846	87.5	327.2	+ 5.6	6	17	140 ^f
210.493										I.		Centre			(25.1)	(+ 6.4)	(6)	(17)	(140)
July 30		Centre			(141.6)	(+ 5.8)	(o)	(o)	(o)	Aug. 8									

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Group 4937, August 7-12. A few small scattered spots.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued*.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 220 ^d .422 M. Aug. 9	TS, C	4937	0.719	90.0	326.6	+ 4.5	5	14		1900. 228 ^d .464 Aug. 17		Centre			(264.0)	(+ 6.8)	(0)	(0)	(0)
221.220 M. Aug. 10	TS, C	4937	0.529	91.1	327.7	+ 5.0	4	7		229.457 Aug. 18		Centre			(250.8)	(+ 6.9)	(0)	(0)	(0)
		4937	0.592	91.1	323.4	+ 4.6	3	7											
		Centre			(359.7)	(+ 6.5)	(7)	(14)	(0)										
222.472	TS, C	4937	0.253	97.3	328.7	+ 4.5	0	9		230.402 Aug. 19		Centre			(238.3)	(+ 6.9)	(0)	(0)	(0)
		4937	0.275	97.0	327.4	+ 4.4	0	25											
		4937	0.312	96.3	325.2	+ 4.3	1	13		231.137 I. Aug. 20	TS, C	0.901	267.1	292.5	+ 0.5			103	
		4937	0.325	94.9	324.3	+ 4.6	0	1				Centre			(228.6)	(+ 6.9)	(0)	(0)	(103)
		4938	0.769	95.2	293.4	+ 0.3	11	29											
		4938	0.775	94.6	292.8	+ 0.6	6	15		232.493 Aug. 21		Centre			(210.7)	(+ 7.0)	(0)	(0)	(0)
		4938	0.812	93.8	289.3	+ 0.8	10	41											
Aug. 11		Centre			(343.2)	(+ 6.5)	(28)	(133)	(0)										
223.474	TS, C	4937	0.053	139.7	327.9	+ 4.3	5	25		233.496 Aug. 22	TS, C	0.936	253.6	264.3	- 12.7			337	
		4937	0.096	107.5	324.7	+ 4.9	0	5				Centre			(197.5)	(+ 7.0)	(0)	(0)	(337)
		4937	0.104	114.2	324.5	+ 4.2	0	6											
		4938	0.611	98.0	292.8	+ 0.4	8	33		234.642 Aug. 23		Centre			(182.3)	(+ 7.0)	(0)	(0)	(0)
		4938	0.666	96.0	288.6	+ 1.0	8	33											
Aug. 12		Centre			(329.9)	(+ 6.6)	(21)	(102)	(266)										
224.472	TS, C	4938	0.402	104.7	294.0	+ 0.3	4	16		235.652 Aug. 24		Centre			(169.0)	(+ 7.1)	(0)	(0)	(0)
		4938	0.465	101.3	289.9	+ 0.7	6	19											
Aug. 13		Centre			(316.8)	(+ 6.6)	(10)	(35)	(0)										
225.453 Aug. 14		Centre			(303.7)	(+ 6.7)	(0)	(0)	(0)	236.226 M. Aug. 25		Centre			(161.4)	(+ 7.1)	(0)	(0)	(0)
226.491 Aug. 15		Centre			(290.0)	(+ 6.7)	(0)	(0)	(0)	237.511 Aug. 26		Centre			(144.3)	(+ 7.1)	(0)	(0)	(0)
227.464 Aug. 16		Centre			(277.2)	(+ 6.8)	(0)	(0)	(0)	238.321 I. Aug. 27		Centre			(133.7)	(+ 7.1)	(0)	(0)	(0)

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Group 4938, August 11-13. Two or three spots.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).			
1900. 239 ^d .232 I. Aug. 28		Centre		°	°	°				1900. 248 ^d .630	TS, C	4940	0°082	282°8	°	°	18	36			
					(121°6)	(+7°1)	(o)	(o)	(o)			4941	0°747	104°3	311°1	+ 8°2	7	18			
												4941	0°756	104°7	310°4	— 5°7	0	14			
												4941	0°767	104°4	309°5	— 6°2	0	6			
240°363 I. Aug. 29		Centre			(106°7)	(+7°2)	(o)	(o)	(o)	Sept. 6		Centre	0°802	101°9	305°8	— 5°7	32	69			
															(357°6)	(+7°2)	(57)	(143)	(o)		
241°226 M. Aug. 30		Centre			(95°3)	(+7°2)	(o)	(o)	(o)	249°517	TS, C	4940	0°291	275°0	2°9	+ 8°4	13	38			
												4940	0°220	268°9	358°6	+ 6°8	0	5			
												4941	0°597	110°1	311°7	— 5°9	0	4			
												4941	0°595	108°6	311°6	— 5°0	0	4			
												4941	0°660	106°5	306°6	— 5°2	5	16			
242°486 Aug. 31		Centre			(78°7)	(+7°2)	(o)	(o)	(o)	Sept. 7		Centre	0°669	105°2	305°7	— 4°6	13	29	(o)		
															(345°9)	(+7°2)	(31)	(96)			
243°228 I. Sept. 1		Centre			(68°9)	(+7°2)	(o)	(o)	(o)	250°430	TS, C	4940	0°485	274°0	2°8	+ 8°3	3	9			
										I. Sept. 8		4941	0°517	112°2	305°1	— 4°8	13	33	508		
												Centre	0°966	85°0	258°2	+ 6°7	(333°7)	(+7°3)	(16)	(42)	(508)
244°230 I. Sept. 2		Centre			(55°6)	(+7°2)	(o)	(o)	(o)	251°477	TS, C	4941	0°317	129°3	305°7	— 4°6	10	28	326		
										Sept. 9		Centre	0°892	86°2	256°5	+ 6°6	(319°9)	(+7°2)	(10)	(28)	(326)
245°513	TS, C	4939	0°955	245°2	106°8	— 21°1	0	8	165c	252°507	TS, C		0°814	275°3	1°1	+ 8°5			184		
		4940	0°628	85°3	359°6	+ 8°6	8	28				4941	0°192	176°7	305°7	— 3°8	7	24			
		4940	0°657	85°4	357°4	+ 8°5	0	2		Sept. 10		Centre			(306°3)	(+7°2)	(7)	(24)	(184)		
		Centre			(38°7)	(+7°2)	(8)	(38)	(165)												
246°247 I. Sept. 4	TS, C	4939	0°995	246°5	109°6	— 22°4	0	107	193f	253°467	TS, C		0°916	276°3	0°4	+ 8°7			293		
		4940	0°477	86°0	0°4	+ 8°2	6	19				4941	0°282	230°5	306°1	— 3°3	10	19			
		4940	0°541	87°3	356°1	+ 7°5	0	13		Sept. 11		Centre			(293°6)	(+7°2)	(10)	(19)	(293)		
		Centre			(29°0)	(+7°2)	(6)	(139)	(193)												
247°454	TS, C	4940	0°197	83°9	1°7	+ 8°3	10	24		254°473		Centre			(280°4)	(+7°2)	(o)	(o)	(o)		
		4941	0°900	99°7	310°3	— 5°5	11	43		Sept. 12											
		4941	0°908	101°0	309°5	— 6°9	11	39													
		4941	0°931	98°6	305°7	— 5°3	19	58		255°456	TS, C		0°747	254°1	313°6	— 6°8			125		
Sept. 5		Centre			(13°1)	(+7°2)	(51)	(164)	(226)	Sept. 13		Centre			(267°4)	(+7°2)	(o)	(o)	(125)		

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Group 4939, September 3-4. A small spot near the west limb; it has largely increased by September 4.

Group 4940, September 3-8. One or two spots; on September 8 a very small spot only.

Group 4941, September 5-11. Several scattered spots on September 5, 6 and 7; subsequently a composite spot measured in one portion.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).						Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	Area for each Group (and for Day).	
1900. 256 ^d .619 Sept. 14	TS, C	Centre	0.872	260.1	311.4 (252.0)	— 5.0 (+ 7.2)	(o)	(o)	217 (217)	1900. 267 ^d .610 Sept. 25		Centre				(106.9)	(+ 6.9)	(o)	(o)	(o)
257.543 Sept. 15	TS, C	Centre	0.953	261.9	311.0 (239.8)	— 5.5 (+ 7.2)	(o)	(o)	310 (310)	268.437 Sept. 26		Centre				(96.0)	(+ 6.9)	(o)	(o)	(o)
258.466 Sept. 16		Centre			(227.6)	(+ 7.2)	(o)	(o)	(o)	269.231 I. Sept. 27		Centre				(85.6)	(+ 6.8)	(o)	(o)	(o)
259.502 Sept. 17	TS, C	Centre	0.895	260.3	276.2 (214.0)	— 5.4 (+ 7.1)	(o)	(o)	133 (133)	270.428 Sept. 28		Centre				(69.7)	(+ 6.8)	(o)	(o)	(o)
260.348 I. Sept. 18		Centre			(202.8)	(+ 7.1)	(o)	(o)	(o)	271.510 Sept. 29		Centre				(55.5)	(+ 6.7)	(o)	(o)	(o)
261.619 Sept. 19	TS, C	Centre	0.942	275.7	256.8 (186.0)	+ 7.8 (+ 7.1)	(o)	(o)	242 (242)	272.180 I. Sept. 30		Centre				(46.6)	(+ 6.7)	(o)	(o)	(o)
262.446 Sept. 20	TS, C	Centre	0.961	118.0	106.7 (175.1)	— 24.3 (+ 7.1)	(o)	(o)	167 (167)	273.451 I. Oct. 1	TS, C	Centre	0.958	239.0	97.1	— 27.2				95
263.442 Sept. 21	TS, C	Centre	0.926	121.0	100.8 (162.0)	— 25.3 (+ 7.0)	(o)	(o)	385 (385)			Centre			(29.9)	(+ 6.6)	(o)	(o)	(95)	
264.530 Sept. 22	TS, C	Centre	0.822	126.5	101.2 (147.6)	— 24.5 (+ 7.0)	(o)	(o)	82 (82)	274.533 I. Oct. 2	TS, C	Centre	0.924	98.4	309.2	— 5.2				227
265.509 Sept. 23		Centre			(134.7)	(+ 7.0)	(o)	(o)	(o)	275.472 Oct. 3	TS, C	Centre	0.780	103.1	313.7 (3.3)	— 6.0 (+ 6.5)	(o)	(o)		56 (56)
266.170 I. Sept. 24		Centre			(126.0)	(+ 6.9)	(o)	(o)	(o)	276.245 I. Oct. 4		Centre			(353.1)	(+ 6.5)	(o)	(o)	(o)	

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Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 277 ^d .449 Oct. 5		Centre		°	°	°				1900. 284 ^d .179 Oct. 12				°	°	°			
					(337.2)	(+6.4)	(0)	(0)	(0)	I.	TS, C	4942 4942 4942 Centre	0.975 0.922 0.913	263.4 262.5 262.1	324.6 314.5 313.2 (248.3)	— 5.0 — 4.5 — 4.7 (+6.0)	0 8 0 (8)	34 25 11 (70)	447 ^c (447)
278.497 Oct. 6		Centre			(323.3)	(+6.4)	(0)	(0)	(0)	285.182 Oct. 13	TS, C		0.986	263.8	314.6 (235.1)	— 5.1 (+5.9)	(0)	(0)	96 (96)
279.472 Oct. 7	TS, C	4942 Centre	0.910 0.192	262.7 203.3	15.1 314.8 (310.5)	— 4.0 — 4.1 (+6.3)	5 (5)	10 (10)	167 (167)	286.453 Oct. 14		Centre			(218.3)	(+5.8)	(0)	(0)	(0)
280.466 Oct. 8	TS, C	4942 4942 Centre	0.391 0.332	242.8 238.6	317.6 313.7 (297.3)	— 4.5 — 4.0 (+6.2)	19 12 (31)	44 26 (70)	(0)	287.465 Oct. 15		Centre			(205.1)	(+5.8)	(0)	(0)	(0)
281.464 Oct. 9	TS, C	4942 4942 4942 Centre	0.609 0.543 0.508	254.5 252.6 251.1	320.1 315.4 312.9 (284.2)	— 4.3 — 4.0 — 4.0 (+6.2)	18 0 11 (29)	51 4 27 (82)	(0)	288.262 Oct. 16	TS, C	4943a Centre	0.984	95.9	115.6 (194.5)	— 4.8 (+5.7)	42 (42)	95 (95)	(0)
282.183 Oct. 10	TS, C	4942 4942 4942 4942 4942 Centre	0.744 0.712 0.676 0.662 0.640	258.0 257.9 255.7 256.1 255.7	321.4 318.8 315.7 314.7 313.0 (274.7)	— 4.7 — 4.2 — 5.0 — 4.5 — 4.3 (+6.1)	18 0 3 0 9 (30)	57 12 18 9 21 (117)	(0)	289.512 Oct. 17	TS, C	4943a 4944 4944 4944 4944 Centre	0.893 0.940 0.951 0.958 0.970	98.7 98.4 99.3 97.1 96.3	115.8 109.1 107.2 105.5 102.8 (178.0)	— 5.2 — 5.9 — 7.0 — 5.2 — 4.7 (+5.6)	26 17 0 20 46 (109)	103 67 22 80 138 (410)	311 ^c (311)
283.462 Oct. 11	TS, C	4942 4942 4942 4942 Centre	0.919 0.894 0.850 0.833	262.0 261.9 261.1 261.0	323.6 320.2 314.9 313.2 (257.8)	— 4.9 — 4.5 — 4.3 — 4.1 (+6.0)	29 15 18 8 (70)	73 46 48 21 (188)	116 ^c (116)	290.199 Oct. 18	TS, C	4943a 4944 4944 4944 4944 4944 Centre	0.811 0.874 0.888 0.894 0.914 0.915 0.940	100.4 99.8 100.7 98.2 100.4 97.6 98.8	116.0 109.3 107.7 106.6 104.3 103.7 100.1 (169.0)	— 5.1 — 5.8 — 6.9 — 4.8 — 7.2 — 4.7 — 6.3 (+5.5)	28 13 9 24 0 40 6 (120)	93 56 38 72 11 188 25 (483)	733 ^c (733)

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Group 4942, October 7-12. On October 7 a small spot; on October 8 two spots; by the next day fresh spots have appeared preceding those seen on the first two days, and the group extends to considerable length.
Group 4943, October 16-27. A large regular spot, *a*, with a forward movement in longitude. It has greatly decreased in size by October 24.
Group 4944, October 17-28. An irregular group following group 4943; by October 21 a large composite spot, *a*, has been formed, which is henceforth seen either alone or with one or two small companions.

MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Area for each Group (and for Day).
					Longitude.	Latitude.	Area of UMIRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).		
1900. 291 ^d 210	TS, C	4943a	0.659	104.4	115.9	— 5.3	29	102		
		4943	0.678	103.2	114.3	— 4.9	0	3		
		4944	0.743	103.7	109.2	— 6.5	16	54		
		4944	0.754	103.2	108.2	— 6.3	10	25		
		4944	0.764	101.8	107.1	— 5.4	13	30		
		4944	0.766	100.3	106.7	— 4.3	5	17		
		4944	0.776	99.8	105.7	— 4.1	0	5		
		4944	0.801	103.8	104.1	— 7.7	0	4		
		4944	0.798	99.7	103.7	— 4.4	9	36		
		4944	0.810	102.1	102.9	— 6.6	0	4		
		4944	0.812	100.8	102.5	— 5.5	0	4		
		4944	0.837	102.3	100.3	— 7.2	8	28		
		Centre			(155.6)	(+ 5.4)	(90)	(312)	(94)	
Oct. 19										
292 ^d 155	TS, C	4943a	0.481	110.5	116.4	— 5.0	25	125		
		4944	0.583	109.1	109.7	— 6.6	34	107		
		4944	0.589	106.6	108.8	— 5.3	27	119		
		4944	0.592	104.6	108.3	— 4.2	14	41		
		4944	0.630	106.2	105.9	— 5.9	0	3		
		4944	0.654	103.4	103.7	— 4.6	0	29		
		4944	0.670	104.8	102.7	— 5.8	0	3		
		4944	0.700	105.9	100.6	— 7.1	8	18		
		Centre			(143.2)	(+ 5.3)	(108)	(445)	(o)	
293 ^d 508	TS, C	4943a	0.225	139.9	117.0	— 4.7	30	108		
		4944a	0.326	126.1	110.0	— 5.9	49	185		
		4944	0.348	119.5	107.7	— 4.8	5	15		
		4944	0.410	116.4	103.7	— 5.6	6	15		
		Centre			(125.3)	(+ 5.3)	(90)	(323)	(o)	
Oct. 21										
294 ^d 197	TS, C	4943a	0.170	183.0	116.7	— 4.4	24	100		
		4944a	0.227	151.1	109.9	— 6.3	29	146		
		4944	0.246	144.1	107.9	— 6.3	2	6		
		4944	0.228	139.8	107.7	— 4.9	4	9		
		4944	0.273	126.9	103.6	— 4.4	7	17		
		4944	0.329	131.4	101.9	— 7.5	5	10		
		Centre			(116.2)	(+ 5.2)	(71)	(288)	(o)	
Oct. 22										
1900. 295 ^d 172	TS, C	4943a	0.293	234.8	117.1	— 4.7	14	114		
		4944a	0.231	211.0	110.1	— 6.3	27	157		
		4944	0.212	202.7	108.0	— 6.2	7	17		
		4944	0.215	201.1	107.7	— 6.5	3	11		
		4944	0.165	185.6	104.2	— 4.3	3	13		
		Centre			(103.3)	(+ 5.1)	(54)	(312)	(o)	
Oct. 23										
296 ^d 186	TS, C	4943a	0.489	250.5	117.3	— 5.0	9	30		
		4944a	0.398	240.8	110.3	— 6.5	30	143		
		4944	0.372	237.3	108.2	— 6.8	3	11		
		4944	0.311	237.4	105.1	— 4.8	2	7		
		Centre			(89.9)	(+ 5.0)	(44)	(191)	(o)	
Oct. 24										
297 ^d 184	TS, C	4943a	0.673	256.6	117.9	— 5.3	11	29		
		4944a	0.594	251.4	111.3	— 6.9	33	157		
		4944	0.565	249.5	109.0	— 7.2	6	19		
		4944	0.513	247.7	105.3	— 6.9	5	10		
		Centre			(76.9)	(+ 4.9)	(55)	(215)	(o)	
Oct. 25										
298 ^d 284	TS, C	4943a	0.835	260.7	118.1	— 5.1	10	23		
		4944a	0.774	257.4	111.7	— 6.6	50	199		
		4944a	0.765	255.5	110.6	— 7.8	3	8		
		Centre			(62.4)	(+ 4.8)	(63)	(230)	(89)	
Oct. 26										
299 ^d 212	TS, C	4943a	0.933	262.3	118.1	— 5.4	0	18		
		4944a	0.891	259.7	111.9	— 6.9	59	260		
		Centre			(50.1)	(+ 4.7)	(59)	(278)	(162f)	
Oct. 27										
300 ^d 518	TS, C	4944a	0.989	262.0	113.5	— 7.2	53	136		
		Centre			(32.9)	(+ 4.6)	(53)	(136)	(228f)	
Oct. 28										
301 ^d 214	TS, C	4945	0.783	100.2	333.2	— 5.1	0	9		
		4945	0.804	100.2	331.2	— 5.5	0	9		
		4945	0.905	97.0	319.6	— 4.4	0	9		
		Centre			(23.7)	(+ 4.5)	(o)	(18)	(315)	
Oct. 29										

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Group 4945, October 29–30. Two small spots.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 302 ^d .235	TS, C	4945	0.616	104.3	333.5	— 5.2	1	5		1900. 311 ^d .426		Centre			(249.0)	(+ 3.4)	(0)	(0)	(0)
I.		4945	0.643	103.7	331.5	— 5.3	3	7		Nov. 8									
Oct. 30		Centre	0.815	97.3	316.3	— 3.3	(10.2)	(+ 4.4)	(4)	(12)	(56)								
303.432										312.522		Centre			(234.6)	(+ 3.3)	(0)	(0)	(0)
Oct. 31		Centre			(354.4)	(+ 4.3)	(0)	(0)	(0)	Nov. 9									
304.474										313.496		Centre			(221.8)	(+ 3.2)	(0)	(0)	(0)
Nov. 1		Centre			(340.8)	(+ 4.2)	(0)	(0)	(0)	Nov. 10									
305.239										314.472		Centre			(208.9)	(+ 3.1)	(0)	(0)	(0)
I.										Nov. 11									
Nov. 2		Centre			(330.6)	(+ 4.1)	(0)	(0)	(0)	315.182					(199.5)	(+ 3.0)	(0)	(0)	(0)
										I.		Centre							
306.202										Nov. 12									
I.										316.324	TS, C	4946	0.933	99.0	116.4	— 7.3	0	12	371c
Nov. 3		Centre			(317.9)	(+ 4.0)	(0)	(0)	(0)	I.		Centre			(184.4)	(+ 2.9)	(0)	(12)	(371)
										Nov. 13									
307.171										317.290	TS, C	4946	0.830	100.4	116.6	— 7.0	4	10	241f
I.										I.		Centre			(171.7)	(+ 2.8)	(4)	(10)	(241)
Nov. 4		Centre			(305.1)	(+ 3.9)	(0)	(0)	(0)	Nov. 14									
308.226										318.529		Centre			(155.4)	(+ 2.6)	(0)	(0)	(0)
I.										Nov. 15									
Nov. 5		Centre			(291.2)	(+ 3.8)	(0)	(0)	(0)	319.200		Centre			(146.6)	(+ 2.5)	(0)	(0)	(0)
										I.									
309.191	TS, C		0.843	261.8	335.1	— 4.9			249	Nov. 16									
I.		Centre			(278.5)	(+ 3.7)	(0)	(0)	(249)	320.168		Centre			(133.8)	(+ 2.4)	(0)	(0)	(0)
Nov. 6										I.									
310.193	TS, C		0.927	263.6	332.5	— 4.6			428	Nov. 17									
I.		Centre			(265.2)	(+ 3.6)	(0)	(0)	(428)										
Nov. 7																			

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Group 4946, November 13-14. A small spot.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—*continued.*

Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measurers.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.		
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).			
1900. 321 ^d .222 I. Nov. 18	TS, C	4947 4947 Centre	0°134 0°187	17°7 37·8	117°5 113°2 (119·9)	+ 9°6 + 10°7 (+ 2·3)	5 2 (7)	16 11 (27)	(o)	1900. 329 ^d .269 I. Nov. 26		Centre			(13·8)	(+ 1·3)	(o)	(o)	(o)		
322°218 I. Nov. 19	TS, C	4947 4947 4947 Centre	0°201 0°252 0°184	312·6 301°1 324°4	115°3 119°3 112°9 (106·7)	+ 10°0 + 9°6 + 10°8 (+ 2·2)	2 17 5 (24)	10 66 16 (92)	(o)	330°284 I. Nov. 27		Centre			(0·4)	(+ 1·2)	(o)	(o)	(o)		
323°212 I. Nov. 20	TS, C	4947 4947 4947 Centre	0°461 0°401 0°365	287°0 290°6 294°9	120°1 116°0 113°3 (93·7)	+ 9°6 + 10°0 + 10°8 (+ 2·1)	12 6 5 (23)	36 21 11 (68)	(o)	331°228 I. Nov. 28		Centre			(348·0)	(+ 1·1)	(o)	(o)	(o)		
324°191 I. Nov. 21	TS, C	4947 4947 Centre	0°650 0°569	281°9 285°3	120°7 114°5 (80·8)	+ 9°1 + 10°2 (+ 1·9)	20 7 (27)	78 16 (94)	(o)	332°187 I. Nov. 29		Centre			(335°3)	(+ 0·9)	(o)	(o)	(o)		
325°194 I. Nov. 22	TS, C	4947 4947 Centre	0°813 0°736	279°8 282°0	121°5 114°3 (67·5)	+ 9°0 + 10°0 (+ 1·8)	7 0 (7)	22 3 (25)	(o)	333°356 I. Nov. 30		Centre			(319·9)	(+ 0·8)	(o)	(o)	(o)		
326°446 Nov. 23	TS, C	4947 Centre	0°941 0°895	279°4 258·8	121°0 113°6 (51°0)	+ 9°4 — 9°2 (+ 1·7)	0 0 (o)	20 279 (553)	274 ^f (200)	334°180 I. Dec. 1	TS, C	Centre	0°770	261°4	344·8	— 6·3	(296°0)	(+ 0·5)	(o)	(o)	33 (33)
327°191 I. Nov. 24	TS, C	Centre	0°929	93°4	333°3 (41·2)	— 2°6 (+ 1·6)	(o)	(o)	(200)	335°171 I. Dec. 2	TS, C	Centre					(281°1)	(+ 0·4)	(o)	(o)	(o)
328°216 I. Nov. 25	TS, C	Centre	0°881	93°8	326°2 (27·6)	— 2°7 (+ 1·4)	(o)	(o)	(112)	336°302 I. Dec. 3	TS, C	Centre	0°875	267°1	328°5	— 2°4	(267·7)	(+ 0·3)	(o)	(o)	44 (44)

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Group 4947, November 18-23. A long group of small spots; the leader is the largest and the most permanent.

Measures of Positions and Areas of Sun Spots and Faculae on Photographs—*continued*.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 338 ^d .287 I. Dec. 5	TS, C	Centre	0.960	268.5	328.5	- 1.4			169	1900. 347 ^d .430 Dec. 14		Centre			(134.5)	(- 1.0)	(0)	(0)	(0)
					(255.0)	(+ 0.2)	(0)	(0)	(169)										
339 ^d .278 I. Dec. 6		Centre			(241.9)	(0.0)	(0)	(0)	(0)	348 ^d .431 Dec. 15		Centre			(121.3)	(- 1.2)	(0)	(0)	(0)
340 ^d .204 I. Dec. 7		Centre			(229.7)	(- 0.1)	(0)	(0)	(0)	349 ^d .464 Dec. 16		Centre			(107.8)	(- 1.3)	(0)	(0)	(0)
341 ^d .217 I. Dec. 8		Centre			(216.3)	(- 0.2)	(0)	(0)	(0)	350 ^d .460 Dec. 17		Centre			(94.6)	(- 1.4)	(0)	(0)	(0)
342 ^d .206 I. Dec. 9	TS, C	Centre	0.974	80.4	127.5	+ 9.3			324	351 ^d .445 Dec. 18		Centre			(81.6)	(- 1.5)	(0)	(0)	(0)
					(203.4)	(- 0.3)	(0)	(0)	(324)	352 ^d .434 Dec. 19		Centre			(68.6)	(- 1.6)	(0)	(0)	(0)
343 ^d .451 Dec. 10		Centre			(186.9)	(- 0.5)	(0)	(0)	(0)	353 ^d .364 I. Dec. 20		Centre			(56.4)	(- 1.8)	(0)	(0)	(0)
344 ^d .184 I. Dec. 11	TS, C	Centre	0.842	105.8	121.0	- 13.6			49	354 ^d .450 Dec. 21		Centre			(42.1)	(- 1.9)	(0)	(0)	(0)
					(177.3)	(- 0.6)	(0)	(0)	(49)										
345 ^d .288 I. Dec. 12		Centre			(162.7)	(- 0.8)	(0)	(0)	(0)	355 ^d .305 M. Dec. 22		Centre			(30.8)	(- 2.0)	(0)	(0)	(0)
346 ^d .210 I. Dec. 13		Centre			(150.6)	(- 0.9)	(0)	(0)	(0)	356 ^d .359 I. Dec. 23		Centre			(17.0)	(- 2.1)	(0)	(0)	(0)

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MEASURES OF POSITIONS AND AREAS OF SUN SPOTS AND FACULÆ ON PHOTOGRAPHS.

Measures of Positions and Areas of Sun Spots and Faculæ on Photographs—continued.

Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.	Greenwich Civil Time.	Measures.	No. of Group, and Letter for Spot.	Distance from Centre in terms of Sun's Radius.	Position Angle from Sun's Axis.	HELIOGRAPHIC		SPOTS.		FACULÆ.
					Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).							Longitude.	Latitude.	Area of UMBRA for each Spot (and for Day).	Area of WHOLE for each Spot (and for Day).	
1900. 357 ^d .204 M. Dec. 24		Centre		°	°	°				1900. 361 ^d .191 I. Dec. 28		Centre		°	°	°			
					(5.8)	(-2.2)	(o)	(o)	(o)						(313.3)	(-2.7)	(o)	(o)	(o)
358.384 I. Dec. 25		Centre			(350.2)	(-2.4)	(o)	(o)	(o)	362.460 Dec. 29		Centre			(296.5)	(-2.9)	(o)	(o)	(o)
359.504 Dec. 26		Centre			(335.5)	(-2.5)	(o)	(o)	(o)	363.211 M. Dec. 30		Centre			(286.7)	(-3.0)	(o)	(o)	(o)
360.164 I. Dec. 27		Centre			(326.8)	(-2.6)	(o)	(o)	(o)	364.217 M. Dec. 31		Centre			(273.4)	(-3.1)	(o)	(o)	(o)

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